



west virginia department of environmental protection

Division of Water and Waste Management
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Austin Caperton, Cabinet Secretary
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July 30, 2018

Justin D. Newman
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Cincinnati, OH 45202

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Re: WV/NPDES Permit No. WV0001279
Chemours Company – Washington Works

Dear Mr. Newman:

This correspondence is in response to your comment letter on behalf of the Little Hocking Water Association, Inc. dated May 18, 2018 regarding WV/NPDES Water Pollution Control Permit No. WV0001279 for the Chemours' Washington Works facility located in Washington, WV. Comments are summarized, followed by the agency's response.

Comment 1: The draft permit must be revised to require elimination of Chemours discharges of GenX, PFOA, and related compounds due to its authorization of discharges significantly higher than what the Agency has determined, and science shows, to be necessary to protect human health and the Agency fails to provide justification for the three-year grace period afforded Chemours before the woefully inadequate effluent limitations.

The State of West Virginia's rules and regulations allow for the discharge of pollutants to waters of the State if the owner/operator of the discharge holds a valid WV/NPDES permit and submitted the required information to complete a WV/NPDES permit application for review. The agency has determined that the permittee has met the requirements necessary for the agency to issue a WV/NPDES permit and the agency has established water quality-based effluent limitations (WQBELs) for PFOA / HFPO-DA to protect narrative water quality standards and the designated uses of the Ohio River. A discharge of a pollutant is permissible if a permit contains the necessary requirements to ensure the protection of water quality standards. Mixing zones are permissible under law and the agency believes the mixing zones granted in the draft and final permit are appropriate. In addition, the agency can grant compliance schedules where the discharger cannot immediately comply with

Promoting a healthy environment.

WQBELs so long as any schedule greater than one-year has interim milestones and the agency can make a reasonable finding that the compliance schedule will lead to compliance with the effluent limitation. The agency has determined that these criteria have been met and has imposed the schedule in the draft permit. As such, the agency believes that the permit contains the necessary requirements to be protective of water quality standards and the designated uses of the Ohio River. It should be noted that the discharge of additional PFAS substances were not requested in the permit application or subsequent updates to the permit application and therefore discharge of these substances is not allowed by the permit. Section C.34 has been added to the final permit to clarify this requirement. Also, Appendix A, Parts I.4, I.8, and I.11 contain a re-opener clause for the permit. As such, if new information becomes available regarding PFOA and/or HFPO-DA which warrants a reassessment of discharge limitations, the agency can reopen the permit to address any necessary revisions.

Comment 2: Chemours must be required to disclose the treatment that will be used at all outlets as part of its application including new treatment for PFOA and HFPO-DA. Chemours should be required to disclose the quantity of GenX and PFCs being discharged at each outlet. WVDEP should require Chemours disclosure of all fluorocarbon compounds in use or generated by the Plant and all information relating to discharge, emissions, and health effects of each.

The permittee provided information on the discharge quantities and health effects in the permit renewal application and follow-up correspondence. This documentation submitted by the permittee is available for review under a Freedom of Information Act (FOIA) request. Air emissions are not regulated by this WV/NPDES wastewater permit; therefore, data submittal with the permit renewal application was not required. Compliance with the TSCA Order would need to be determined with the US EPA through the requirements related to that Order. As for PFASs other than PFOA and HFPO-DA, no information was provided on the use of these substances by the permittee, so they cannot be discharged without a major modification of the permit. Approval of a major permit modification requires a 30-day public comment period. Section C.34 has been added to the permit to clarify the requirements for the use, disposal, and/or degradation of additional PFAS substances.

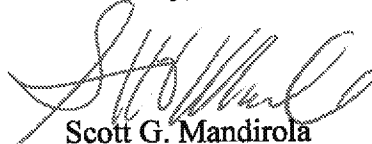
Comment 3: The “efficient installation” loophole for Outlets 102, 305, 405, 505, 605, and 125 should be removed from the permit to prevent Chemours from masking its discharges. Individual monitoring is needed for each Internal Outlet of both flow rates and concentrations of all perfluorinated compounds and TSS.

The agency concurs that the most appropriate monitoring location to ensure compliance with applicable effluent guideline requirements is at the discharge which is subject to the effluent guideline. WV/NPDES regulations allow for engineering estimates of flow when direct measurement is impracticable, inefficient, or infeasible. Due to the age of the facility and inherent difficulties of retrofitting existing piping the agency believes that a scientifically / mathematically sound engineering calculation is sufficient to determine the quantities of flow being discharged at the internal outlets at the facility. The agency further realizes that moving the compliance and monitoring location further away to also include wastewaters

from Internal Outlets 105 and 115 would result in unacceptable masking to ensure compliance with effluent guidelines. Please note, that it cannot be stated that all of the internal outlets are the largest sources of HFPO-DA at the Washington Works' plant as the comment letter indicates. PFOA and HFPO-DA are primarily used in the Fluoroproducts (East / West) manufacturing unit(s). Only Internal Outlets 305 and 605 discharge wastewaters from these manufacturing units and have the potential to contain significant amounts of PFOA / HFPO-DA. Internal Outlet 305 has not discharged since March 2015. Furthermore, as the fact sheet indicates, "masking" is not a concern for PFOA and HFPO-DA at these internal outlets. As stated in the fact sheet, the large amount of non-contact cooling water is a concern for process wastewater discharges at internal Outlets 102, 205, 305, 405, 505, and 605 which are regulated by technology-based limitations prescribed by 40 CFR 414 (Organic Chemicals, Plastics, and Synthetic Fibers Point Source Category) for Total Suspended Solids and Biological Oxygen Demand (BOD5). Effluent Limitation Guidelines (ELGs) such as those imposed in the permit (at Internal Outlet 205) do not allow the use of dilution water (such as used for non-contact cooling) to achieve the minimum prescribed treatment levels specified by the regulation. Conversely, PFOA and HFPO-DA limitations are water-quality based effluent limitations which are imposed to protect a concentration-based instream criterion at the edge of a default mixing zone (i.e. dilution). As such, the agency believes the proposed monitoring and limitation locations in the draft permit are appropriate and no revisions have been made. Please note that some of these technology-based effluent limitations have been revised in the final permit based upon comments from the permittee.

Again, the agency would like to thank you for your comments on draft WV/NPDES No. WV0001279. The Division of Water and Waste Management issued WV/NPDES Permit No. WV0001279 on July 30, 2018. Within 30 days of the issuance date of this permit, anyone who may be adversely affected or aggrieved by the permit terms and conditions may file a Notice of Appeal with the Environmental Quality Board, 601 57th Street SE, Charleston, West Virginia 25304. Telephone (304) 926-0445. Thank you for your interest in this application.

Sincerely,



Scott G. Mandirola
Director

SGM:jvl

cc: Env. Inspector Supervisor
EPA Region III

Via Electronic Mail and First-Class Mail

Lori Devereux
Director, Division of Water and Waste Management, DEP
Permitting Section
601 57th Street, SE
Charleston, WV 25304-2345

May 18, 2018

Re: Comments of Little Hocking Water Association, Inc. on Draft NPDES Permit WV0001279

Dear Ms. Devereux:

My office submits these comments on behalf of the Little Hocking Water Association, Inc. (3998 Newbury Road, P.O. Box 188, Little Hocking, OH 45742 (740) 989-2181)¹ on the West Virginia Department of Environmental Protection's ("WV DEP") Draft National Pollution Discharge Elimination System ("NPDES") Permit Number No. WV0001279 ("Draft Permit") proposed to be issued to Chemours Company FC, LLC ("Chemours").² Little Hocking urges WV DEP to revise the Draft Permit as outlined below to protect public health and the environment from exposure to harmful perfluorinated compounds and to comply with the requirements of the Clean Water Act.

As detailed below, WV DEP's Draft Permit must be revised for several reasons, including:

- WV DEP's Draft Permit authorizes discharges significantly higher than what the Agency has determined, and science shows, to be necessary to protect human health.

¹ All inquiries should be directed to our office.

² The Draft Permit, if approved, would be issued to Chemours to operate and maintain disposal systems for the direct discharge of treated industrial wastes (process wastewater, non-contact cooling water, steam condensate, boiler blowdown, sanitary wastewater, and storm water), steam condensate wastewater, non-contact cooling water, storm water, groundwater, filter backwash wastewater, sanitary wastewater, and untreated storm water into the Ohio River and tributaries thereto.

- WV DEP fails to provide a justification for the three-year grace period afforded to Chemours before the imposition of even the woefully inadequate final effluent "limitations."

In fact, given the decades of historic and ongoing significant PFOA exposure for the region surrounding the Chemours Washington Works Plant ("the Plant"), and the developing scientific and health research on the threats presented by GenX, WV DEP should require Chemours to eliminate its discharges of GenX, PFOA, and related compounds.

I. Little Hocking and its users will be adversely affected by the Draft Permit and the discharges authorized thereunder.

Little Hocking is a rural non-profit Ohio corporation supplying water to approximately 12,000 people in Southeast Ohio. Little Hocking pumps and distributes groundwater from its Wellfield, a 45-acre property located in Washington County, Ohio. The Wellfield is located on the north side of the Ohio River, directly across the river from the Plant.

Decades of discharges from the Plant have resulted in contamination of the Wellfield, and testing has confirmed the presence of among other chemicals, perfluorooctanoic acid (PFOA) and perfluoro-2-propoxypropanoic acid (also known as "GenX" or "HFPO"). Little Hocking water users who have had their blood tested for PFOA have some of the highest non-worker PFOA blood levels of any reported in the United States to-date. In fact, Little Hocking's users have been historically one of the most heavily exposed to PFOA of any non-worker population in the world. It is widely accepted that the Plant is the ultimate source of the PFOA contamination. Indeed, even E.I. DuPont De Nemours and Company ("DuPont") recognized that the PFOA it emitted into the air is a source of the PFOA in Little Hocking's water supply. Given its unique position as a "sink" for chemicals released by the Plant, Little Hocking has a substantial interest in the GenX discharges that are the subject of the Draft Permit.

The Plant began using the fluorocarbon compound PFOA in the 1950s as a processing aid in the production of Teflon. PFOA contamination became the subject of numerous lawsuits and a multi-year Science Panel study researching the effects of PFOA on the affected populations. That research found a probable link between exposure to PFOA and adverse health effects including birth defects, testicular cancer,

and kidney cancer.³ PFOA has purportedly been phased out of use at the Plant; however, discharges of PFOA are ongoing.⁴

In 2012, DuPont and the WV DEP entered into a Consent Order regarding the use of the PFOA substitute fluorocarbon compound GenX, and the Plant has been discharging it into the air and Ohio River. Researchers began to focus on GenX after the discovery of significant GenX contamination surrounding a Chemours plant in Fayetteville, North Carolina in 2017.⁵ Research has found that GenX is associated with adverse health effects including cancer of the liver, pancreas, and testicles.⁶

The Ohio River is a critical drinking water source for over three million people.⁷ The discharge of significant amounts of GenX into the river threatens to exacerbate the ongoing threat to public health from PFOA exposure. In its current form, the Draft Permit imposes GenX and PFOA effluent limits that are woefully inadequate to protect public health, and at some Plant outlets, imposes no limits at all for three years.

II. There appears to have been no review of the impact that use, release, and disposal of GenX will have on LHWA's users and its water supply.

LHWA's members have been chronically exposed to disproportionately high levels of PFOA in drinking water. Yet, there appears to be no consideration of the impacts (for example, interactions between PFOA and GenX and other related compounds) that GenX may have on a population already chronically exposed to disproportionately high levels of PFOA. Indeed, there is no analysis of potential additive and/or synergistic impacts that may be associated with the interaction of GenX with other fluorocarbon compounds (including PFOA). In light of these failures, the Draft Permit is without a valid factual foundation, is arbitrary and capricious, and must be revised as set forth below.

III. WV DEP's proposed final effluent limitations will further endanger human health and the environment.

In proposing alarmingly lax effluent "limitations"⁸ the WV DEP's Draft Permit ignores the scientific and health studies surrounding GenX, regulatory developments in

³ 2018 Draft Permit Fact Sheet, at 15.

⁴ See, 2018 Draft Permit Fact Sheet Description of Discharges, at 1-13.

⁵ *Id.* at 15.

⁶ *Id.*

⁷ Ohio River Foundation, "Ohio River Facts," www.ohioriverfdn.org/education/ohio_river_facts/ (last accessed May 16, 2018).

⁸ For the first three years after the issuance of the proposed permit, there is no limit for Outlet 001 on PFOA or GenX discharges, only a requirement to report the levels. After three years, the final PFOA

other states, and the history of contamination in the area that will be most affected by the proposed discharges. WV DEP should commit to do what North Carolina has done and ban any GenX discharges into area rivers and tributaries (here, the Ohio River and its tributaries) as part of the Draft Permit.

The facts demonstrate that requiring Chemours to eliminate discharges of GenX is needed to protect public health and the environment. It is beyond dispute that the area surrounding the Plant is already over-burdened from decades of PFOA exposure. The concentrations in discharges continue to be high. According to the description of discharges reported by Chemours, every single outlet that discharges PFOA or GenX exceeds relevant health advisories/goals, some by factors of 10 and others by factors of 100.⁹

Even the Draft Permit Fact Sheet acknowledges the threats posed by the discharge of PFOA and GenX. Studies show that PFOA causes adverse health effects “including developmental effects to fetuses during pregnancy or to breastfed infants (e.g., low birth weight, accelerated puberty, skeletal variations), cancer (e.g., testicular, kidney), liver effects (e.g., tissue damage), immune effects (e.g., antibody production and immunity), thyroid effects and other effects (e.g., cholesterol changes).”¹⁰ GenX studies show “negative effects to the liver and blood, along with cancer of the liver, pancreas, and testicles.”¹¹ *Recent research has found that GenX has a higher toxic potency than PFOA, and may have toxic effects similar to PFOA despite the faster excretion time.*¹² Studies also call into question the long-term effectiveness of activated carbon for removing GenX from water supplies.¹³ In light of this developing science, WV DEP should take a prophylactic, public health oriented approach and ban all wastewater discharges of GenX.

Further, the Draft Permit should require Chemours to eliminate all discharges of PFOA into the Ohio River and tributaries. Chemours claims it ceased using PFOA at the Plant approximately five years ago. In light of the millions of individuals that depend

effluent limitation would be 2000 ppt. The final GenX effluent limitation is 1400 ppt. The 3 year interim limits for Outlet 002 allow an average monthly PFOA discharge of 18,000 ppt. The GenX limits on that outlet would be 9,000 ppt (average monthly discharge) and of 32,000 ppt (daily maximum discharge).

⁹ 2018 Draft Permit Fact Sheet, at 1-13.

¹⁰ *Id.*, at 15.

¹¹ *Id.*

¹² *Comparing the toxic potency in vivo of long-chain perfluoroalkyl acids and fluorinated alternatives*, Environment International 113 (2018) 1-9.

¹³ *Legacy and Emerging Perfluoroalkyl Substances Are Important Drinking Water Contaminants in the Cape Fear River Watershed of North Carolina*. Environmental Science & Technology Letters. American Chemical Society, Washington, DC, 3(12):415-419, (2016)

on the Ohio River for drinking water, and in light of the fact that the river and its sediments continue to be an unchecked, ongoing source of PFOA exposures from past discharges, the Draft Permit should require Chemours to eliminate all discharges of PFOA into the Ohio River and its tributaries.

IV. WV DEP's proposed schedule of compliance will further endanger human health and the environment.

WV DEP's proposed schedule allows Chemours to discharge toxic perfluorinated compounds for three years at concentrations that could result in significant threats to health and the environment. In other words, the Draft Permit proposes a compliance schedule that amounts to a 36-month "grace period" in which no limits apply to certain outlets. This schedule was proposed by Chemours, and no justification is provided (nor could one be provided) by WV DEP.

PFOA had been in use at the Plant since the early 1950s and publicly recognized as a human health threat for well over a decade. GenX has apparently been in use at the Plant for several years. Chemours already has years of sampling data for PFOA and for GenX at the Plant and years of experience treating wastewater contaminated with perfluorinated compounds. As part of the 2012 Consent Decree with West Virginia, DuPont was required to construct a Reverse Osmosis filtration system and additional carbon filters to use GenX.¹⁴ Further, in North Carolina, Chemours has publicly stated that it can eliminate GenX discharges in wastewater. In light of this, Chemours should be required to eliminate discharges of GenX forthwith.

V. Chemours' incomplete application violates state and federal requirements.

The Clean Water Act and West Virginia's Water Pollution Control Act require a NPDES Permit application to be a "complete application,"¹⁵ which must include "for each outlet . . . a description of . . . The treatment received by the wastewater."¹⁶ However, Chemours only provides a description of the current wastewater treatment for Outlets 002 and 005. The Draft Permit allows Chemours one and one-half years before it must select waste minimization and/or wastewater treatment technologies. This deprives the public of the ability to comment on these decisions and violates

¹⁴ 2012 WV Consent Order No. 7418, at 3.

¹⁵ 40 C.F.R. § 122.21(a)(1).

¹⁶ See West Virginia NPDES Industrial Permit Application Form 1, Section XIV, "Flows, Sources of Pollution, and Treatment Technologies," at 4 (updated Dec. 1, 2009), available at http://www.dep.wv.gov/WWE/permit/individual/Documents/NPDES_Ind_Form_IFIP.pdf.

NPDES permit application requirements. Chemours must be required to disclose the treatment that will be used at all outlets as part of its application.

Further, Chemours should be required to disclose in its application the quantity of GenX and other PFCs being discharged by each outlet. The Toxic Substances Control Act Section 5(e) Consent Order ("TSCA Order") executed by DuPont on January 28, 2009, which authorizes the use of GenX requires that it be recovered and captured or destroyed at an overall efficiency of 99% from all effluent streams and air emissions.¹⁷ The discharge quantity information is necessary to determine compliance status and should be required to be provided and analyzed before issuance of any permit.

In addition, North Carolina has recognized that PFOA and GenX are not the only harmful fluorocarbon compounds used by Chemours. Regulation of one or two compounds at a time is not protective of public health and the environment because of the rapid proliferation and use of alternative fluorocarbons.¹⁸ WV DEP should require, as part of the application, Chemours' disclosure of all fluorocarbon compounds in use at or generated by the Plant and all information relating to the discharge, emissions, and health effects of each.

VI. WV DEP's proposed requirements for Internal Outlets 105, 205, 305, 405, 505, 605, and 125 allow Chemours to continue to hide effluent limitation violations.

The Washington Works Plant has six primary Internal Outlets (105, 205, 305, 405, 505, and 605) that discharge into Outlet 005. According to the Draft Permit, the Internal Outlets do not have monitors to measure wastewater. Instead, wastewater from Internal Outlets 305, 405, 505, and 605 mixes together at Internal Outlet 205 before any levels or flow are monitored. A significant amount of cooling water is also mixed with wastewater from Internal Outlets 305, 405, 505, and 605 before monitoring occurs at Internal Outlet 205. The mixing of wastewater from the Internal Outlets and cooling water obscures the true concentrations of chemicals discharged from each Internal Outlet, and the overall flow rate. Indeed, WV DEP has expressed its concern that the current monitoring circumstances allow Chemours to violate effluent limitations and cover up the evidence of such violations: "This is a concern due to the potential of the cooling water serving as dilution (masking) to achieve the effluent guideline limitations. This is further complicated because the permittee utilizes both groundwater and river

¹⁷ 2018 Draft Permit Fact Sheet, at 13-14.

¹⁸ *A Never-Ending Story of Per- and Polyfluoroalkyl Substances (PFASs)?*, Environ Sci Technol. 2017 Mar 7;51(5):2508-2518; *Worldwide Distribution of Novel Perfluoroether Carboxylic and Sulfonic Acids in Surface Water*; Environ. Sci. Technol., Article ASAP

water as its source of cooling water.”¹⁹ Chemours has claimed that it does not have a means to sample Internal Outlets 305, 405, 505, and 605 separately.²⁰ However, the 2012 Consent Decree with West Virginia required separate monitoring of GenX at Internal Outlets 305 and 605.²¹

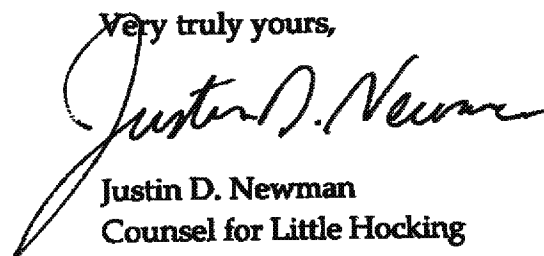
Further, the proposed Compliance Schedule ostensibly requires that Chemours install and operate flow measurement equipment at Internal Outlets 102, 305, 405, 505, 605, and 125. However, it also provides a loophole: “If measurement equipment cannot efficiently be installed, the permittee, in lieu, may develop a scientifically/mathematically sound methodology of engineering a calculation to measure flow based on the individual unit operations occurring at each respective unit...”²²

The “efficient installation” loophole should be removed from the permit to prevent Chemours from masking its discharges. In fact, all potential points of masking with cooling water or treated wastewater should be removed. Individual monitoring is needed for each Internal Outlet of both the flow rates and concentrations of all perfluorinated compounds and TSS. The Internal Outlets are also the largest sources of GenX discharges at the Washington Works Plant, and the concerns with masking GenX violations would be the same.

VII. Conclusion

For the foregoing reasons, Little Hocking respectfully requests that the WV DEP make the substantive revisions consistent with these comments for Draft Permit WV0001279 to ensure the protection of human health and the environment.

Very truly yours,



Justin D. Newman
Counsel for Little Hocking

¹⁹ 2018 Draft Permit Fact Sheet, at 22.

²⁰ *Id.* at 21.

²¹ 2012 WV Consent Order No. 7418, at 4.

²² 2018 Draft Permit, at 70.